WHAT IS CLAIMED IS:

1. A liquid discharge recording head cartridge comprising:

a first plate having liquid supply ports opened for supply liquid;

a recording element base plate provided with discharge ports for discharging liquid, a member for forming liquid flow paths to conduct liquid to said discharge ports for discharging liquid, and recording elements for generating energy to be utilized for discharging said liquid from said discharge ports, and fixed to aid first plate for inducing liquid from said liquid supply ports;

a recording element unit provided with a wiring board for providing signals for said recording element base plate in accordance with recording images; and

a liquid supply unit having liquid supply paths formed therefor to conduct liquid supplied from tanks containing liquid to liquid inlet ports, wherein

said liquid supply unit is provided with a mechanically coupling portion, and the leading face of said mechanically coupling portion is positioned on the face having said liquid inlet ports opened thereto;

to said first plate, said liquid supply ports are open each in the position corresponding to the position of said liquid inlet ports;

said liquid inlet ports of said liquid supply unit

and said liquid supply ports of said first plate are coupled with a joint sealing member being placed between them with holes on the positions corresponding to the opening positions of both of said supply unit and supply ports, and a coupling member is fitted into said mechanically coupling portion to enable said first plate to abut against said mechanically coupled portion of said liquid supply unit, and then, the head of said coupling member engages with the screw retaining portion provided for said first plate to couple said first plate and said liquid supply unit closely under pressure; and

said wiring board is installed on the face on the side opposite to the abutting face against said liquid supply unit of said first plate, and, further, folded to the side face on the different side, and said screw retaining portion is provided outside the portion having said wiring board installed thereon.

2. A liquid discharge recording head cartridge according to Claim 1, wherein said carriage of a liquid discharge recording head main body provided with a carrying mechanism for carrying a recording medium in one direction (direction Y), and a carriage enables said liquid discharge surface to be held to face the recording surface of said recording medium and moved in the direction (direction X) orthogonal to the carrying

said recording medium, and further comprises:

an abutting portion in the direction X, an abutting portion in the direction Y, and an abutting portion in the direction Z being used for positioning at the time of installation on said carriage.

3. A liquid discharge recording head cartridge according to Claim 2, wherein said abutting portion in the direction X is provided for said liquid supply unit, and said first plate is provided with the referential surface in the direction X, and said liquid supply unit and said first plate are coupled in a state of being positioned with said referential surface in the direction X and said abutting portion in the direction X abutting against each other.

4. A liquid discharge recording head cartridge according to Claim 2, wherein said abutting portion in the direction Y is provided for said liquid supply unit, and said first plate is provided with the referential surface in the direction Y, and said liquid supply unit and said first plate are coupled in a state of being positioned with said referential surface in the direction Y and said abutting portion in the direction Y abutting against each other.

5. A liquid discharge recording head cartridge

according to Claim 2, wherein said mechanical coupling portion is a screw retaining boss, and said screw retaining boss is formed so as to keep the tolerance of the upper face thereof to be within a ranged of designated tolerance with respect to the abutting face of said abutting portion in the direction Z.

6. A liquid discharge recording head cartridge according to Claim 1, wherein the contacting face of said first plate with said liquid supply unit under pressure is in contact with said liquid supply unit only by the contact portion through the contacting part of said mechanical coupling portion, and the portion of said joint sealing member having said liquid inlet ports opened thereto.

7. A liquid discharge recording head cartridge according to Claim 1, wherein a plurality of said liquid supply ports are arranged and distributed almost in one line and opened for said first plate, and said mechanical coupling portions are arranged in two end portions on the central line of the array of said liquid supply ports.

8. A liquid discharge recording head cartridge according to Claim 1, wherein said first plate is formed by ceramic material.

9. A liquid discharge recording head cartridge according to Claim 1, wherein said ink supply member is formed by resin material.

10. A liquid discharge recording head cartridge according to Claim 1, wherein said joint sealing member is formed by material having elasticity of a small compression set.

11. A liquid discharge recording head cartridge according to Claim 1, wherein said mechanical coupling portion is a screw retaining boss, and the face having the head of said screw retaining boss to abut thereon, and the upper face of the head of said screw are recessed from the face of said first plate having said wiring board installed thereon.

12. A liquid discharge recording head cartridge according to Claim 1, wherein said mechanical coupling portion is a screw retaining boss, and said screw retaining boss is installed on one and the same member forming the portion having said liquid inlet ports opened thereto.

13. A liquid discharge head cartridge according to Claim 1, wherein said liquid supply unit is provided with a adhesive agent coating portion being in contact

with said first plate and bonded by use of adhesive agent.

14. A liquid discharge head cartridge comprising:

a recording element unit including a plate member provided with liquid supply paths for supplying liquid to a recording element base plate for performing recording operation by discharging liquid;

a liquid supply unit portion provided with communication passage for conducting liquid from the liquid supply source for supplying liquid to send out said liquid through said communication passage; and

an elastic sealing member arranged between one end portion of the liquid supply path of the plate member of said recording element unit and the end portion facing one end portion of said liquid supply path on the communication passage of said liquid supply unit portion, and provided with liquid flow paths communicating with said liquid supply paths and said communication passage to seal between one end portion of liquid supply paths of said recording element unit and the communication passage of said liquid supply unit portion, wherein

said liquid supply unit portion and said recording element unit are adhesively bonded with each other for coupling on the bonding face portions other than the locations having said elastic sealing member arranged

in compression.

15. A liquid discharge recording head cartridge according to Claim 14, wherein said elastic sealing member is provided with ribs on the portion facing one end portion of the liquid supply paths of said recording element unit to surround each opening end portion of said liquid flow paths, while abutting against said portion.

16. A liquid discharge recording head cartridge according to Claim 14, wherein said elastic sealing member is formed by chlorinated butyl rubber.

17. A liquid discharge recording head cartridge according to Claim 14, wherein said elastic sealing member provides the contact pressure of 5 (N) or more and 30 (N) or less.

18. A liquid discharge recording head cartridge according to Claim 14, wherein the plate member of said recording element unit is formed by either one of silicon, alumina, aluminum nitride, silicon carbide, molybdenum, and tungsten.

19. A liquid discharge recording head cartridge according to Claim 14, wherein said liquid supply unit

portion and said recording element unit are adhesively bonded by use of epoxy adhesive agent or ultraviolet hardening adhesive agent.

20. A liquid discharge recording head cartridge according to Claim 19, wherein said liquid supply unit portion and said recording unit are adhesively bonded on plural locations for coupling.

21. A liquid discharge recording head cartridge according to Claim 19, wherein when said liquid supply unit portion and said recording unit are adhesively bonded by use of epoxy adhesive agent or ultraviolet hardening adhesive agent, said recording element unit is held by a holding member against said liquid supply unit portion.

22. A liquid discharge recording head cartridge according to Claim 14, wherein the contact face of said liquid supply unit portion is given a reforming process.

23. A liquid discharge recording head cartridge according to Claim 22, wherein said reforming process is a high frequency corona surface treatment or an oxygen plasma treatment.

24. A liquid discharge recording head cartridge according to Claim 14, wherein said recording element base plate is provided with electrothermal converting devices for heating said liquid for recording use to be discharged.

25. A liquid discharge recording head cartridge comprising:

discharge ports for discharging liquid;

a first base plate having electrothermal converting devices provided therefor to discharge liquid from said discharge ports;

a second base plate provided with liquid supply paths for sending liquid to grooves arranged on said first base plate corresponding to said electrothermal converting devices;

a flow path formation member provided with flow paths for sending liquid to said liquid supply paths on said second base plate; and

an elastic member provided for the bonding portion between said second base plate and said flow path formation member for sealing against the outside portion of the communicating portion having said liquid supply paths and said flow paths communicated, wherein

a space formed by said second base plate and the outer circumferential portion of said flow paths of said flow path formation member is filled in by

adhesive agent for sealing said communicating portion against the outside portion.

26. A liquid discharge recording head cartridge according to Claim 25, wherein cut-off portions are formed for said elastic member to be communicated with said space.

27. A liquid discharge recording head carriage according to Claim 25, wherein filling grooves are formed for said second base plate to be communicated with said space.

28. A liquid discharge recording head cartridge according to Claim 25, wherein said cartridge is provided with electrothermal converting devices for generating thermal energy to be used for discharging ink.

29. A liquid discharge recording head cartridge according to Claim 28, wherein ink is discharged from discharge ports by utilization of film boiling generated in ink by thermal energy applied by said electrothermal converting devices.

30. A liquid discharge recording head cartridge according to Claim 25, wherein adhesive agent is filled

in the contact portion between said second base plate and the outer circumference of said flow paths of said flow path formation member for sealing said communicating portion against the outside portion.

31. A liquid discharge recording head cartridge according to Claim 30, wherein adhesive agent is filled in said space.

32. A liquid discharge recording head cartridge according to Claim 30, wherein said adhesive agent is filled in said space from said cut-off portions of said elastic member.

33. A liquid discharge recording head cartridge according to Claim 30, wherein said adhesive agent is filled in said space from said filling grooves formed for said second base plate.

34. An elastically deformable sealing member inclusively installed between the abutting faces of a pair of coupling members, having respectively plural paris of liquid passages to be connected with each other, and sealing the circumference of ports of said plural pairs of liquid passages opened to these abutting faces in the facing state, respectively, comprising:

a mat portion having satin surface extended along said abutting faces; and

a plurality of sealing portions extruded from said mat portion in circular to surround the circumference of plural pair of said ports, each having flat and smooth surface, respectively.

35. A sealing member according to Claim 34, wherein the center line average roughness of said satin surface of said mat portion is within a range of 10 to 50 μm.

36. A sealing member according to Claim 34, wherein the center line average roughness of said flat and smooth surface of said sealing portion is 10 μm or less.

37. A sealing member according to Claim 34, wherein said sealing member is formed by chlorinated butyl rubber having hardness (JIS A) within a range of 30 to 50.

38. A liquid supply unit comprising:

a pair of coupling members having plural pairs of liquid passages respectively to be connected with each other; and

a sealing member inclusively installed between the

abutting faces of these coupling members, having respectively plural paris of liquid passages to be connected with each other, and sealing the circumference of ports of said plural pairs of liquid passages opened to these abutting faces in the facing state, said openings of said sealing member forming communicating passages of said liquid passages, wherein

said sealing member comprises a mat portion having satin surface; and a plurality of sealing portions extruded from said mat portion in circular to surround the circumference of said openings of the sealing member, each having a flat and smooth surface, respectively, and

said sealing portions are in contact with said abutting faces of said coupling member under pressure.

39. A liquid discharge head cartridge comprising:

a liquid tank connecting unit having a plurality of liquid flow paths formed therefor;

a liquid discharge head provided with a plurality of liquid supply paths communicative with said plurality of liquid flow paths, a plurality of discharge ports communicated these liquid supply paths, and a plurality of discharge energy generating portions for discharging liquid from these discharge ports; and

a sealing member inclusively installed between the abutting faces of said liquid tank connection portion

and said liquid discharge head abutting against each other, having openings corresponding to ports of said liquid flow paths and said liquid supply paths opened to these abutting faces in a facing state, wherein

said sealing member comprises a mat portion extended along said abutting faces. having satin surface; and a plurality of sealing portions extruded from said mat portion in circular to surround the circumference of said openings of said sealing member, each having a flat and smooth surface, respectively, and said sealing portions are in contact with said abutting faces of said coupling member under pressure.

40. A liquid discharge recording head cartridge according to Claim 39, wherein said liquid tank connecting portion is provided with a tank holder for mounting a plurality of liquid tanks for retaining liquid, respectively.

41. A liquid discharge recording head cartridge according to Claim 40, further comprising said liquid tanks.

42. A liquid discharge recording head carriage according to Claim 39, wherein the center line average roughness of said satin surface of said mat portion is within a range of 10 to 50 μm.

43. A liquid discharge recording head cartridge according to Claim 39, wherein the center line average roughness of said flat and smooth surface of said sealing portion is 10 μm or less.

44. A liquid discharge recording head cartridge according to Claim 39, wherein said sealing member is formed by chlorinated butyl rubber having hardness (JIS A) within a range of 30 to 50.

45. A liquid discharge recording head cartridge according to Claim 39, wherein the center line average roughness of the portion abutting against said liquid tank connection portion and said sealing portions of said sealing member of said liquid discharge head is 0.5 μm or less.

46. A liquid discharge recording head cartridge according to Claim 39, wherein a smoothing layer is formed for the abutting portion of said liquid tank connecting portion and said sealing portions of said sealing member of said liquid discharge head for smoothing the surface thereof.

47. A liquid discharge recording head cartridge according to Claim 39, wherein said discharge energy generating portion is provided with electrothermal

converting devices for generating thermal energy for creating film boiling in liquid to discharge liquid from said discharge ports.

48. A liquid discharge recording head cartridge according to Claim 39, wherein liquid is ink and/or processing liquid for adjusting the printability of ink with respect to a printing medium.